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THE HARP SEAL A PERMANENT RESIDENT IN
THE ST. LAWRENCE.

BY C. HART MERRIAM, M.D.

THE harp seal (*Phoca grænulandica*) is a circumpolar species abounding in the northern seas at certain times of the year and coming south in winter as far as the Grand Banks of the North Atlantic.

It is an off-shore species, living in the open sea or among the ice, and rarely approaches land excepting for the procurement of food under certain special circumstances hereinafter detailed. I am not aware that it ever crawls upon rocky ledges, or even sand bars, as does the harbor seal (*Phoca vitulina*) and several other species.

During the season of bringing forth and caring for its young, which occupies nearly two months (usually from the middle or latter part of February till the middle of April), vast multitudes of harp seals congregate on the ice fields around Jan Mayen island, and on the drifting floes to the north and east of Newfoundland. The fact is also well known that large numbers regularly whelp on the ice in the Gulf of St. Lawrence, but these are supposed to be a branch of the main herd which has passed southward through the Straits of Belleisle, while the main body passed to the eastward of Newfoundland. On this point Mr. J. A. Allen, in his excellent monograph of the Pinnipeds, observes: "Their passage southward along the Labrador coast occurs before the ice forms, and during this journey they are said to 'hug the shore' and freely enter the gulfs and bays. They appear first in small detachments of half a dozen to a score or more individuals; these are soon followed by larger companies, which increase in frequency and numbers; in a few days they form one continuous procession, filling the sea as far as the eye can reach. Floating with the arctic current, their progress is extremely rapid, and in one short week the whole multitude has passed. Arriving at the Straits of Belleisle, the great body is deflected eastward, but many enter the straits and pass round to the southward of Newfoundland; some, however, spend the winter in the Gulf of St. Lawrence, where they bring forth their young on the ice in spring" (pp. 642-643). But neither this author nor any other writer, so far as I am aware, has intimated that the species in question might be found in any part of the St. Lawrence after the

close of the breeding season. In fact, authorities agree that its range, in these waters, is limited to the lower gulf, from Anticosti, the Magdalens, and St. Paul's island, outward; and that it is found here during the winter months only.

In cruising about in the river and gulf during the summers of 1881 and 1882, I saw many seals. Some were evidently the harbor seal (*Phoca vitulina*), while others were too large for this species. On one occasion in particular, a stormy afternoon in July (July 19, 1881), not far below the mouth of the Saguenay, a large seal with a perfectly black head appeared alongside our yacht and rode over several waves before lost to view. Others of the same kind were seen off Portneuf and Manicougan, and between Anticosti and Mingan. Mr. Napoleon A. Comeau, who lives on the north shore near the point where the river expands into the gulf, assured me that the seal in question was the harp, and that he had killed hundreds of them during a residence of more than twenty years on that coast. Mr. Comeau has since sent me, and I have now in my possession, nearly fifty skulls and several skins of harp seals killed between Manicougan shoals and Pt. des Monts. The greater number were shot in March and April, though some were taken in the middle of summer. During the present season (1884), he shot one June 16th and another September 8th, the latter containing a foetus 55^{mm} in length.

Mr. Comeau has kindly furnished me with the following interesting notes :

"The harp or Greenland seal (*Phoca grænländica*) is the most abundant of all our seals, roving up and down the St. Lawrence in its migrations in immense numbers. It is eminently gregarious, hundreds and even thousands being seen together. I myself (in March) have observed one herd at Point des Monts that was more than a mile long; there must have been several thousand in it. They are to be met with at all seasons here, but are most numerous in winter, especially in December, January and the early part of February, at which time they disappear and resort to the ice-fields in the gulf for the purpose of depositing their young, which they begin to do about the 15th of February. As in the case of the harbor seal, the young are perfectly white at birth and have a fine silky coat about an inch in length. If killed soon after birth, or within two or three days, this fur is very fine; but if a longer time has elapsed, especially if the weather

be fine, it falls off quickly and the true hair and color is assumed. When one year old the color is whitish underneath, with occasionally a few black spots, about the size of a ten cent piece, about the neck and breast. These spots are not always present, the color very often being uniform dirty white. On the back there is a broad streak of grayish or blackish color. In the second year there is a slight change. The markings are more numerous, and *are never absent*, the black spots are also larger and more generally distributed all over the body, and the color of the back is not quite so dark or uniform. Third year: most of the black spots having enlarged are merged into each other and form large irregular patches about the size of hen's eggs or slightly larger. The color of these spots also begins to fade, and they have not the same clearness of outline. A few occasionally bring forth at this age, but it is very rare. By the fourth year they have attained nearly their full size, and the two peculiar stripes on the back, from which they derive their name (as it resembles a harp in shape), begin to appear; the other spots disappear gradually in proportion as these stripes become more distinct and perfect, until at such time, probably at the age of nine or ten years, these two bars and part of the back of the head and nose only are black, all the rest being pure white. After nourishing their young for a period of about three weeks, they are left to their own resources, and strange to say do not seem to take to the water very readily. About this time the females have lost the immense coat of fat they had before giving birth to their young, and take to the water to feed for a short while, when they again return to the ice, at intervals; but by the 20th of March they again make an appearance near the shore and feed voraciously, their chief food being capelin, or herring, but nothing comes amiss, sculpins, flounders, shrimps and other small fry, being swallowed indiscriminately. They do not all leave the ice at the same time, some remaining on it till the middle of April. They bring forth only one young at a birth, though in some rare instances, a few of which have come under my own observation, two are born (in one case I shot the mother containing twins). The males of this species fight very savagely amongst themselves, frequently leaving scars and marks from their teeth and claws.

" Their sense of smell is not very highly developed. I have frequently seen them come to the surface within five or six yards of,

and to the leeward of our boat, and so long as we did not move they did not pay the slightest attention to our proximity. On the slightest movement, however, they would disappear, but if not too shy, or previously shot at, would come up again a little farther off. When shy they do not reappear, except at a long distance, and frequently remain under water from fifteen to twenty minutes. When wounded with a rifle-ball or large buck-shot, unless nearly dead, they will go a great distance; but if struck by small shot, such as number A, they soon come to the surface. The only way in which I can account for this is, that the blood does not flow freely from the small shot-holes in the thick skin of the throat, but forming a clot on the inside, soon accumulates and chokes them; while with a ball or large buck-shot the wound is large and the blood escapes easily, thereby enabling them to breathe freely.

"Great herds of harps sometimes remain in this vicinity [God-bout] from March till June or even July, moving both up and down the river. They often work in towards the shore in the morning to feed on the shoals of herring and capelin, and go out again about seven or eight o'clock. When not pursued or disturbed by hunters this will be repeated day after day. During the months of July, August, September, October and November, they are usually not numerous, though, as before stated, a few are to be seen all the year round.

"I have been told by professional seal hunters that the females have young only every second year. I am inclined to doubt this statement, as it is only founded on the fact that some adult females are shot during the winter without young. I have often shot them myself, but do not consider it conclusive proof of this theory, as the same thing is observed amongst all mammals, though perhaps not quite to the same extent.

From a careful observation extending over several years, I have found that the proportion of males to females is about equal, that is, judging from the number killed annually at Point des Monts (about 250 on an average) where they are shot in the water. Of course when killed on the ice by the sealers in February and March the females predominate. This species and the common seal have only two teats and not four, as erroneously supposed by some."

At my request Mr. Comeau very kindly took the trouble to

visit Manicougan shoals during the present year. Concerning this trip he writes me :

"I took up my quarters on board the light ship there for three days in order to have a chance to see what kinds were likely to keep around the shoals. During that period I saw three large herds of the harp seal pass the light ship, moving east. The first herd, which I saw August 29, contained about five to six hundred *old* harps. The same day in the evening another smaller herd was seen, and on the 31st another herd of a couple of hundred. The captain, who is a very intelligent man and a sportsman, told me that it was nothing unusual but almost of daily occurrence, and that they did not seem to move more in one direction than another, but would sometimes go up one day and down the other."

Mr. Comeau further states that, "The harp is tolerably common as far up as the entrance of the Saguenay. A good many are killed every year, both in winter and summer, around Escoumain (twenty-five miles below the Saguenay). I have myself seen harp seals above Hare island. They were numerous this year (1884) off Godbout, in June and July."

To recapitulate: From the data in hand it appears that the harp seal is a permanent resident in the St. Lawrence; that it spends the summer wandering about, sometimes singly or in small schools, sometimes in large herds; that it ascends the river at least as far as the Saguenay, and is common between Mille Vaches and Manicougan; that it frequents with considerable regularity particular shores and estuaries to feed on the small fish that congregate there at certain states of the tide; that it works down the river in the early winter, and is particularly abundant about Point des Monts in December, January, and the early part of February; that it then passes farther down to whelp on the heavy ice in the gulf; that its young are born during the latter part of February or early March; that as soon as the young are able to shift for themselves the parents at once return, passing Point des Monts in great numbers on their way up the river.

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EDITORS' TABLE.

EDITORS: A. S. PACKARD AND E. D. COPE.

—— Cannot the public press of the United States find something of interest in the scientific literature of the day to give their